RADIO

CONDENSER ACTS AS STORAGE TANK

How the Fixed and Variable Types Are Constructed and What They Do.

A condenser in a radio circuit is a storage tank for electrical charges. This storage unit may be either fixed or variable. The fixed condenser, which consists principally of a few sheets of metal foil, intersectioned between paraffined paper or mica and bound tightly together, and which, unlike the variable condenser, does not cost very much either to buy or build, is the one generally used on the receiving circuit of the vacuum tube.

When connected across the terminals of the receiver, the fixed condenser has the property of discharging with great violence across these terminals and setting up stronger currents to act upon the magnet coils of the receiver. If the condenser were left out of the circuit the receivers would still respond to the impulses of the detector's rectified currents, but when they are added to the circuit, these currents build up a voltage in the condenser so great that when it is discharged it does so with violence. This discharge occurs at each impulse in the voice of the speaker. The voice impulses set up in the condenser are forced to discharge immediately, in order to leave room for the next charge and to prevent the condenser's becoming overloaded. Just imagine a reservoir of water filling slowly until the water were up to brim, and then flood gates opened so that the water all ran out. This is a good example of the manner in which the condenser

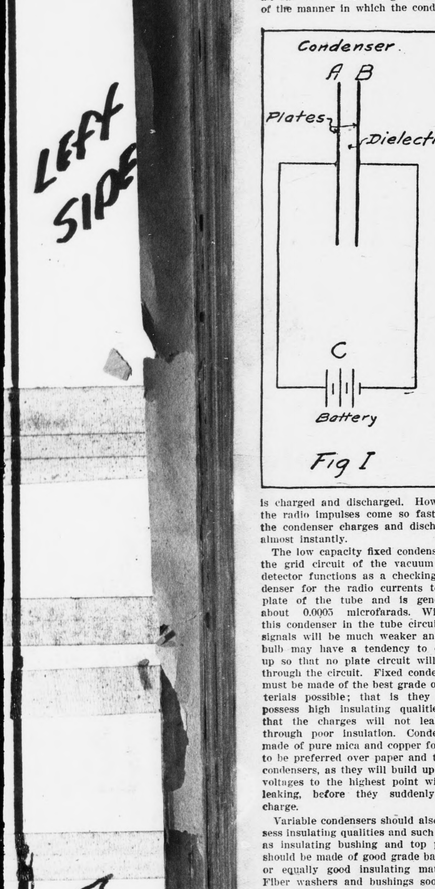


Fig 1

is charged and discharged. However, the rapid impulses come so fast that the condenser charges and discharges almost instantly.

The low capacity fixed condenser in the grid circuit of the vacuum tube detector functions as a checking condenser for the radio currents to the plate of the tube and is generally about .001 microfarads. Without this condenser in the tube circuit the signals will be much weaker and the bulb may have a tendency to choke up so that no plate circuit will flow through the circuit. Fixed condensers must be made of the best grade of materials possible, in that they must possess high insulating qualities so that the charges will not leak off through poor insulation. Condensers made of pure mica and copper foil are to be preferred over paper and tinfoil condensers, as they will build up their voltages to the highest point without breaking, before they suddenly discharge.

Variable condensers should also possess insulating qualities and such parts as insulating bushing and top plates should be made of good grade bakelite or equally good insulating material. Fiber washers and bushings soon develop leaks, as fiber has the property of absorbing moisture and warps in time, causing the plates in the condenser to touch. Variable condensers are generally made from aluminum so as to make them as light as possible. Aluminum has the property of keeping its shape in flat plates and is also a good conductor.

Built-up variable condensers with metal washers used as separators generally give more satisfaction than other types. Experience has proved that they keep their plates separated without scraping and the number of plates can be increased or decreased at will.

A variable condenser inserted in series with the antenna and tuner decreases the wave length of the antenna circuit as it is varied. When the plates are separated the wave length is the shortest, and even when the plates are intermeshed the wave length is shorter than if the condenser were out of the circuit. A variable condenser in shunt with the secondary or the tuning coil will increase the wave length of the circuit, depending upon the number of plates that are inserted in the condenser as it is varied from 180 degrees to zero.

By reason of this characteristic the variable condenser allows for very close tuning.

A condenser consists of two electrical conductors separated by an insulator. The electrical conductors are called the plates and the insulating medium separating the plates is called the dielectric.

In Fig. 1 is shown a simple condenser consisting of two plates, A and B, with air between two plates acting as the dielectric. If now a battery C is connected to the two condenser plates, the positive side of the battery to one plate and the negative side to the other plate, a current will flow. This current that flows from the battery terminals when the battery is connected to the plates of the condenser is called the charging current. During the process of charging a condenser an electric displacement takes place in the dielectric. This electric displacement gives rise to an electromotive force which tends to oppose the applied electromotive force from the battery C. Finally a point is reached where the back e. m. f. and the charging current become zero.

If the battery C be disconnected from the condenser a potential difference will exist between the two condenser plates that will just be equal to the potential of the battery C. Short-circuiting the condenser plates will cause the condenser to discharge, a condition that will exist until the potential difference between the plates has been reduced to zero or until the dielectric has again resumed its normal state.

The charge that can be placed on a static condenser depends upon three factors. First, the area of the condenser plates; second, the thickness and composition of the dielectric, and third, the potential difference applied to the plates by the battery C.

Watch Your "A" Battery.

When your storage battery is "cranky" do you have it recharged without having it looked over by an expert? If you do not take any notice of it you are apt to be buying a new battery in a short time. Many are the things which can go wrong in a storage battery. Here are a few of the more simple troubles which lead to bigger ones: Letting the specific gravity of the battery go without notice, not using distilled water, overcharging, letting the battery stand idle for a length of time without charging and drawing too much current from it. These are only a few of the many troubles which occur in storage batteries of the lead-plate type.

What Is Meant by Resonance.

You'll read in any radio magazine or other publication that in order to detect incoming waves you must bring your secondary into resonance. Sounds oddlike, doesn't it? It's very simple. Take two tuning forks. Adjust them to the same pitch and strike one. The other will respond to its vibrations. That's resonance.

Resonance in radio means bringing your couplings to a point of sympathy by tuning carefully with the incoming wave and you'll get it.

RADIO FLASHES

It is now the thing for social clubs to have "radio committees."

An eastern institution for the blind has installed radio for its boys. The boys receive lessons in the code and learn to copy commercial messages.

Dry cells cannot successfully be used for the filament supply of vacuum tubes. The batteries will hold up for about five minutes, and then they will slowly die down, until nothing at all can be heard.

Radio waves from Queenstown, Ireland, were amplified in New York with such success that they disturbed the proceedings of the Supreme court in a building opposite the receiving station.

At present France has the most powerful radio station in the world in the American built Lafayette towers near Bordeaux. The station now being erected at Fort Jefferson, Long Island, will by the end of the year take first place.

Dr. H. W. Nichols, an eminent electrical engineer, announces that the ether is not only not of use in radio transmission, but that it is an interference. Dr. Nichols believes that much can be done to remedy the static disturbance by a means of sharper tuning.

Radio outfits have become so numerous in the apartment houses in New York that it has become a problem to find space for the antennae on the roofs. A scheme is being developed to have community service rendered to tenants over the house telephone wires.

Dr. Marconi is reported as saying that radio will result in the junking of the ocean cables. Mr. Mackay of the Commercial Cable system, says Marconi "talks through his hat." It seems to us that neither could be called a disinterested witness. It is only fair to Marconi, however, to say that it is doubtful if he uses his hat as a means of transmission; the ether is too handy.

ONE SILENT EVENING URGED

Listeners Would Have Weekly Chance to Hear Stations Outside the Local District.

The radio public is beginning to demand not only good entertainment, high-class transmission, but a greater range of reception. In other words, the listener-in wants to reach farther afield, his horizon is extending; he wants to hear the distant stations outside his city and state, and the Department of Commerce radio officials are making a survey of each radio district to see if there isn't some way that this can be arranged.

One radio enthusiast has put it well. He says that, while he is appreciative of all his local stations, he sometimes wan "to go visiting by radio"—like a some of the big stations outside the local field, just as he frequently likes to listen to the conversation of others than his immediate family, which he cannot do if those at home talk all the time. It's the same in radio broadcasting, he says.

In an effort to aid in seeking a solution of his new problem, the Department of Commerce has written letters to its nine radio district inspectors advising that information reaching the department indicates that there is developing a sentiment throughout the country for silent local radio broadcasting periods, so that the listeners-in can hear the distant stations, which is often impossible when local stations are broadcasting. In some sections of the country steps for such an arrangement have already been taken.

Fixing Usage of "Juice."

There is a simple rule for judging the amount of electricity which your set is using.

Ohm's law was discovered several centuries ago and is still the one quoted by every electrician or radio man. To find the number of watts your set draws, multiply the volts times the amperes; the sum is equal to the wattage.

This may be used in different ways to find the amperage, voltage and other electrical values in a set. To find amperage, divide wattage by voltage; for voltage, vice versa.

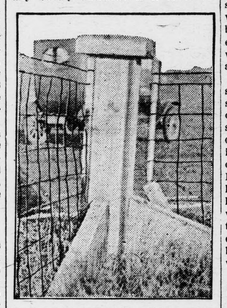
BUILD POSTS TO STAND BIG PULL

Corner Must Be Constructed to Resist Much Greater Strain Than Other Parts.

WIRE IS STRETCHED TIGHTLY

Device Shown in Illustration Is Made of Reinforced Concrete With a Vertical Section—Lumber Forms Necessary.

The corner post of a fence must be constructed to stand a much greater strain than any other part of the fence. Woven wire fencing when properly erected is stretched very tightly; sometimes ordinary woven wire fencing 42 inches high, bears a tension of several thousand pounds. When this tension is transmitted to the corner post from two angles it means that the post has to be unusually solidly anchored if it is to re-



A Reinforced Concrete Corner Post.

sist the strain. A very substantial type of corner post is shown in the illustration. It is made of reinforced concrete with a vertical section 12 inches square and two wings, each six inches thick, extending in the direction of the two lines of fence which meet at the corner.

Forms Are Necessary.

To make such a post, forms are necessary and the first step is the excavation to provide room for them. Ordinary one-inch lumber is good for form use in work of this kind, since it can be braced with little difficulty. The forms are put together so that the post, wings and all, is cast in one operation. The reinforcing for the vertical part consists of seven steel rods, nine-sixteenths of an inch in diameter, arranged on the two outside faces of the post at intervals of about three inches, with about one inch space between the bars and the surface. Similar bars extend down through the post and into the lower part of the wings, two bars being used for each wing.

Rich Mixture Used.

The concrete mixture used is one part cement, two parts of well-graded sand and three parts of pebbles or broken stone, with no particle larger than one inch in diameter. This is a rather "rich mixture," but since strength is the principal requirement it is the proper one to use.

No strain should be put on the post until it has hardened for at least four weeks. During this time it should be thoroughly wetted at least once every day so the concrete may attain its maximum strength.

FIGHT AGAINST TUBERCULOSIS

Huron County, Ohio, Dairymen Financed Their Own Campaign Against Tuberculosis.

In Lyme township, Huron county, Ohio, owners of dairy cattle organized an association through which they financed their own campaign against tuberculosis when state and federal indemnity funds had run out. The members were assessed $2 a head for grades and $4 a head for purebreds, one-fourth being used for organization work and the rest for paying indemnities. The association has tested 83 herds containing 662 cattle, 26 of which reacted. The owners of the reactors received the salvage value of the animals and a straight indemnity of $20 a head for grades. For purebreds the indemnity was doubled. About 85 per cent of the herds in the township were tested.

FEED COWS AS INDIVIDUALS

Trouble Results When an Owner Doesn't Know How to Care for High-Producing Cow.

When a high-producing cow falls into the hands of an owner who doesn't know how to feed for milk production, trouble results. The basic principles which govern the feeding of dairy cows are easy to understand and simple to follow. It is necessary to feed the cows as individuals and make certain that the ration is ample to care for the animal's body requirements, and to leave a surplus of nourishment for producing milk. More dairy cows are underfed than are overfed. When the ration is balanced, and composed largely of first quality silage, cases of overfeeding are rare.

Manure Is Saved.

Tests made at The Ohio experiment station prove that not only is more manure saved from paved floors, but that the quantity saved contained higher percentages of phosphorus, potash and nitrogen.

Potatoes as Stock Feed.

Cull potatoes may be fed in small quantities to sheep in about the same way as roots are fed to this class of animals.

Sows Should Have Exercise.

Brood sows should be encouraged to exercise, because exercise helps to develop the unborn pigs.

Reduce Labor of Feeding.

Concrete feed mangers simplify and reduce the labor of feeding stock and are highly sanitary.

Reduce Labor Cost.

A well-built, well arranged barn lowers the labor cost of feeding and caring for stock.

SOIL CONDITIONS ON NIGHT TEMPERATURES

Sandy Loams Store Up More Heat During the Day.

Land in Use Should Be Well Drained of Surplus Moisture to Avoid Danger of Formation of Injurious Frosts.

(Prepared by the United States Department of Agriculture.)

A relation has been shown to exist between the temperature of the soil and the ensuing minimum temperature of the air immediately above, says the weather bureau of the United States Department of Agriculture.

Low night-air temperatures in garden and truck farms may often be prevented by the selection of soil in which there is a sandy component, as sand and sandy loams generally store up more heat during the day than do most other soils and give off more in the night time by conduction to the air above, thus diminishing the probability of critical temperatures and the formation of damaging frosts. The land in use should be well drained of surplus moisture, as wet soils are invariably cold soils and more susceptible to frost damage. Any soil, whether it be sand, loam, or clay, is warmer when it is clean and free from weeds and unnecessary vegetation.

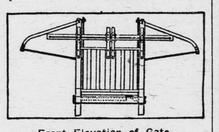
Frost may form on one side of a street and not on the other, or in one section of a level farm and not in another, for one or more of several reasons, such as difference in soils, slight difference in elevation, in moisture, or in kind and extent of surface covering, or the amount of insolation received. Frost may appear in sections which have wet, cold soils covered with heavy vegetation or uncultivated, while on the same night and under the same meteorological conditions it does not form on other ground close by where the soil is relatively dry, warm, and clean.

GATES OPEN AUTOMATICALLY

Device Invented by New Mexico Man Will Open and Close Without Driver Alighting.

The Scientific American, in illustrating and describing an invention of D. M. McCauley of Toas, N. M., says:

More particularly the invention relates to mechanism for gates, an object being to provide a gate normally positioned across an entrance or railway crossing, which automatically opens to allow an automobile or other



Front Elevation of Gate.

vehicle to pass through and automatically closes after the vehicle has passed, without necessitating the driver's alighting. The gate is held by locking means which must be released by the weight of the vehicle, and will resist manual operation.

PAINT WILL HELP MACHINERY

Certain Metal Parts Which Endure Much Longer If Treated—Red Stands Weather Fine.

Whether you store your machinery or not, there are certain metal parts, like rods, braces and other pieces, which would endure longer and save many a breakdown if paint were applied to them. A good barn paint will do, and red is a color that stands the weather fine. If another shade is desired to harmonize with other parts or not to be so conspicuous, this color can be toned down or changed. There may be fine cracks in metal that escape the eye, but they take in moisture and rust forms in there. Paint would cover them up safely. Freezing helps to weaken such places when unprotected.

WHY WASHING INJURES EGGS

Pores of Shell Are Sealed With Gelatinous Matter and Water Seems to Dissolve It.

To retain the keeping qualities of eggs, do not wash them. The pores of the shell are sealed naturally with a gelatinous substance. Water seems to dissolve this substance allowing air to be admitted through the pores of the shell into the egg. Then decomposition of the egg begins. Washing also has a tendency to harden the shell. This permits too much moisture to escape and this injures the vitality of the egg.

CARE FOR ASPARAGUS BEDS

Cleaned Off and Covered With Manure Plant Starts Off With Rush in the Spring.

Asparagus starts off with a rush in spring if beds are carefully cleaned off and covered with a heavy coat of stable manure when winter sets in. The plants will be protected from alternate freezing and thawing that tends to lift the roots out and expose them; and then, too, the nitrates from the manure have time to leach down into the soil ready to be used in the spring.

First-Class Daily Barn.

An abundance of sunlight, uniform temperature, plentiful supply of fresh air with freedom from drafts, with the highest possible degree of cleanliness, are necessary to the first-class dairy barn.

Barnyard Pavement.

A barnyard pavement of concrete should be at least six inches thick, if subjected to heavy loads, otherwise four inches will be sufficient.

Forage and Live Stock.

Where there's a will to fence the fields, there's a way to grow forage crops and raise live stock.

Self-Starter for Garden.

Now is a good time to provide the garden with a self-starter by building a hotbed or cold-frame.

Save Fertilizer Bills.

Money in cover crops now saves double money on fertilizer bills next spring.

CHIC NEW GLOVES

Ornamentation Is Prominent on Latest Handcovering.

Popular Lengths Are the Gauntlet, the Mousquetaire, and the Slip-on Models.

The simplicity of present-day clothes has had a strong bearing upon all sorts of dress accessories, particularly gloves. This does not mean that gloves have become simple, notes a fashion authority in the New York Tribune. On the contrary, they have taken unto themselves all the ornamentation and elaboration that formerly were appended to dresses and coats.

The popular glove lengths are the gauntlet, the mousquetaire and the slip-on models, the latter ranging from two-button style to elbow length. The vogue of the long, tight sleeve has brought about an unusual demand for the gauntlet.

Innumerable models in kid, French suede and Arabian mocha are used for afternoon and evening, while for sports wear slip-ons made of chamois are popular.

The prevailing colors seen in dresses and coats are equally prominent in gloves. These include all the brown shades, particularly beaver, sand and fawn, as well as all the gray tones. Black kid is in unusual demand for all types of gloves, while white is seen principally in sixteen-button lengths.

Many smart combinations of black and white and also brown and tan are prevalent. Among the recent importations is a striking gauntlet of black kid having a cuff of white kid and carrying an appliqued design made of the black leather. There are gloves having cuffs that may be worn over the wrist or turned back over the hand.

Gloves of the pull-on variety frequently have cuffs that turn back over the hand, the turned-back portion being embroidered or lined in a contrasting color. In some instances velvet linings are used to add a touch of novelty. For instance, a deep purple lining may appear on white cuff, black on gray or brown on tan.

The gauntlet type of glove affords the greatest opportunity for elaboration. There are some models that button to one side, at which point there is an emblem motif. Others have gores of a contrasting shade set into the cuff.

THE SMART SUIT FOR MISSES

Brown duvetine and squirrel form the winter features of this charming outfit for young ladies who wish to be comfortably and fashionably dressed.

BLACK AND WHITE COSTUME

For afternoon wear, this French costume combines the ever popular black and white. The lines are so simple any woman handy with the needle can copy it successfully. The skirt portion is of black velvet. The blouse section is of white satin with black chenille embroidered dots.

BROADCLOTH NOW IN DEMAND

For Suitings and Dresses, Prompted by Draped Mode, Material Is Much in Limelight.

More pronounced animation is shown in the movement of broadcloth, according to a survey of several fabric departments in the large stores. In each case it was reported that a greater demand had been evidenced for broadcloth this season than in several years. The quality that made the suede cloth a popular number—its dull surface thereby paling the success of lustrous broadcloth—appears to wane as a fabric feature for certain garments, and the high luster of broadcloth brings that fabric into the limelight again.

Qualities are shown in varying degrees of lustrousness in the surface, and, of course, in the refinement of the texture. For suitings and dresses, the latter prompted by the draped mode, broadcloth is taking a definite hold.

Ruffles.

Small ruffles of val lace are used most ingeniously this season by the smartest houses. One of the most effective places is on the wide kimono sleeves. Sometimes the cuff of solid ruffles reaches from the wrist to the elbows.

THE VEIL ADDS TO BEAUTY

Color of Popular Accessory Helps to Emphasize the Best Points in Woman's Complexion.

An important accessory in women's apparel is the veil, for its color can help to emphasize the best points in one's complexion, or to mar it utterly. A white or delicate complexion, black, red, light orange and light blue are good, but gray, yellow, green, violet and especially white are to be avoided.

For a red face or ruddy cheeks, veils of white, black or red are best, but yellow, orange, green and violet would not produce good results.

A woman with a moderately rosy complexion could wear a veil of black, white, red, rose and orange (unless the face is too pale), but could not appear advantageously in a yellow, gray, bluish gray or violet veil.

For a yellowish complexion, black, white, rose and eventually orange and blue veils are advisable, but red, yellow and greens are to be avoided.

Women with dark complexions could wear veils of black, red, white and rose colors, but they would not look well in gray, orange, yellow or violet.

THE SILKS OF THICK WEAVE

Material Scorns Trimming in Any Respect; Dressee Built to Accentuate Lines of the Form.

Some of the dresses made of perfectly plain silks and those that are heavily woven recommend themselves most heartily. They are made merely of masses of drapery. They scorn trimming in any respect. They are built to accentuate the lines of the form and to stop at that. Many of them have been seen at smart restaurants and upon the streets for they are products which have recommended themselves to the wear of women who are looking for new things and smart things at this season of the year.

Many of these dresses made of dark blue or black or the darker shades of brown are embroidered most intricately in threads of silver and gold. This embroidery is applied only at the places where it will help to give weight to the silk and add design to the dress as a whole. It is never added as an extraneous trimming, but it conforms to the lines of the dress and insists upon being a well-considered portion of the dress.

Laundering Georgette Crepe.

First use gasoline to remove the oily streaks at neck and wrists before washing. Wash with warm water and a soap that is not too strong. Make a good suds, dip the garment in it, squeezing the material through the suds. Rinse thoroughly several times. Do not wring, but squeeze out the water. Wrap it up until nearly dry, then iron carefully on the wrong side, on the crosswise of the material, stretching it slightly as you iron. Do not have the iron too hot; a warm iron is better.—Designer.

Colors for Spring.

Brighter colors are the proper coverings for winter. For spring the following colors are to be the vogue: Gray, fallow, sandalwood, rosewood, bittersweet, sunburst, almond green, navy, indo and mephisto.

COLOR IN SASH OR GIRDLE

Attractiveness of Street Frock Is Enhanced by Addition of the Brilliant Shades.

A new and popular corsage bouquet shows one of the charming things from Paris, and is being copied and bettered in many ways. The rosebuds are of many different colored ribbons. They are worked over and molded and planned so that their colors verge into each other with distinct harmony and a great deal of quaintness. Not only one sort of ribbon is used but many sorts as well as many colors. The various colors and width and weaves of ribbons are gathered into a bunch of streamers which fall from the floral setting in long lines that reach the bottom of the skirt when the wearer is in repose, and which fly away in the breezes on any pretext. A bunch of ribbons of this sort does everything for a gown. It may be as plain as a pipe stem in every other particular, but once that girdle and the corsage bouquet have been added the whole thing takes on a different character and a charm of the party atmosphere.

Really, these girdle arrangements and the sashes and sash ends that go with them, are very important in the scheme of the modern dress. Sometimes the sash will be the only distinguishing feature. It may look plain and simple in color and design, but further examination will show linings and edgings and trimmings altogether charming. Even the street frock will have its sash or its girdle that shows color and design and charm.

Ribbon Bows.

Ribbon bows are in great favor, in all sizes. Very small ones decorate a blouse on the middy plan and hold in the fullness about the hips. Three, arranged horizontally, make a Windsor tie quite unnecessary.

Turbans.

Turbans show no signs of a decrease in popularity, even though midsummer brought the large hat to the fore front. The smartest models show the draped brim.

IMPROVED UNIFORM INTERNATIONAL

Sunday School Lesson

(By REV. P. B. FITZWATER, D. D., Teacher of English Bible in the Moody Bible Institute of Chicago.)
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LESSON FOR DECEMBER 24

A LESSON IN TRUST AND PREPAREDNESS

LESSON TEXT—Luke 12:13-40.

GOLDEN TEXT—The life is more than meat, and the body is more than raiment.—Luke 12:23.

PRIMARY TOPIC—The Story of a Foolish Rich Man.

JUNIOR TOPIC—A Foolish Rich Man.

INTERMEDIATE AND SENIOR TOPIC—Rich Toward God.

YOUNG PEOPLE AND ADULT TOPIC—True Riches.

Since on October 8 we had a lesson on the birth and childhood of Jesus, many will doubtless prefer to have this new lesson instead of the Christmas lesson.

I. A Warning Against Covetousness (vv. 13-21).

1. The Occasion (vv. 13-15). One of the company requested Jesus to be umpire in a disputed estate. Two brothers were in trouble over an inheritance. Christ refused to enter the sphere of the civil law and warned against the spirit of avarice. Christ's mission was preeminently spiritual.

2. Enforcement of the Warning (vv. 16-21). The parable of the rich man shows clearly that to be concerned with earthly riches while neglecting God is the height of folly. The Lord's warning is of great importance today; for many are seeking gold and forgetting God. Note (1) his increase in goods (v. 16). His riches were rightly obtained, for the ground brought forth plentifully. This shows that a man may be rich because of the Lord's blessing upon him. (2) His perplexity (v. 17). His land was producing more than his barns would hold. He did not want it to go to waste. If he had possessed the right views of life and a sense of stewardship before God, he would have seen that his barns at least had enough for his personal needs and that he could have distributed his surplus to the needy and for benevolent purposes. (3) The fatal choice (vv. 18, 19). He chose to enlarge his barns and give up his life to ease and luxury. It ought to be a delightful task for men whom God has made rich to devote their time and energy to the distribution of their possessions to benevolent purposes. (4) The awful indictment (vv. 20, 21). God calls him a fool. This is no arbitrary judgment. Riches furnish neither contentment in life nor guarantee continuance of life. It is not only foolish, but madness to forget God while engaged in heaping up riches. Soon the man must die, and his riches may get into the hands of unworthy men or even curse the lives of the children who inherit them.

II. The Certain Cure for Anxiety (vv. 32-34).

Having shown the folly of the rich man who gained gold but lost God, He now urged the disciples to trust God and dismiss all anxious cares. He assured them that they need not be anxious even for the necessities of life. Note:

1. The Argument (vv. 22, 23). This is summed up in one brief sentence: "The life is more than food, and the body is more than raiment." The God who gave the life and made the body should be trusted to provide food and clothing.

2. The Illustrations (vv. 24-28). (1) God's care for the fowls (vv. 24-26). The ravens do not sow nor reap—they have not storehouse or barn, yet they live, for God feeds them. If God does not forget the fowls, certainly He would do more for His children. (2) God's care for the flowers of the field (vv. 27, 28). If God is so careful of those flowers which appear but for a day, how much more will He clothe His children!

3. The Exhortations (vv. 29-34). (1) Make not the getting of food and clothes your chief concern. Trust God to provide them. (2) Seek the kingdom of God (v. 31). Those who make God's kingdom first shall have all their needs supplied (Phil. 4:19). (3) Be not afraid (v. 32). God's good pleasure is upon His own, and all good things will He give them. (4) Practice self-denial in order to be able to give gifts to those in need (vv. 33, 34). The doing of such deeds will tend to lift the thoughts upward to God—to trust Him.

III. Be Ready for the Coming of the Lord (vv. 35-40).

Having warned the disciples against the acquisition of worldly goods while forgetting God, and shown them the needlessness of anxiety for food and clothes, He shows them the blessedness of being in a state of readiness when the Lord shall come. Conviction as to the certainty of the Lord's coming is the sure cure for worldliness and anxious care. This attitude of heart He made clear by two parables—that of the returning of the Lord and that of the thief. The Lord will be so pleased with those who are waiting for Him that He will take delight in sitting at the banquet with them, and even serve them. The parable of the thief shows that the time of the Lord's coming is not known.

Peace.

The peace which Christ gives is superior to all outward circumstances. The world has tried hard to put an end to the Christian's peace, but has never been able to accomplish that. Poverty cannot destroy it—the Christian in his hovel can have peace with God. Sickness cannot mar it—lying on his bed the Christian is joyful in the midst of his pain. Persecution cannot ruin it, for persecution cannot separate the believer from Christ (Rom. 8:35).

Of Unfailing Faith.

This is a maxim of unfailing truth, that nobody ever pries into another man's concerns, but with a design to do, or to be able to do him a mischief.—South.

Paul's Wish.

I count all things but loss for the excellency of the knowledge of Christ Jesus my Lord; if by any means I might attain unto the resurrection of the dead.—Philliplans 3:8-11.

So Many Ravens.

The Lord never had so many ravens as he has this morning.—T. DeWitt Talmage.

God Is Known Everywhere.

In Judah is God known; His name is great in Israel.—Psalm 76:1.

PROFESSIONAL CARDS

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Chronology of The Year 1922

Compiled by E. W. PICKARD

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INTERNATIONAL

Jan. 1—Delegation from Chita republic in Washington made public secret documents revealing alleged military alliance between Japan and France for domination of Siberia. Denounced as forgeries by French and Japanese delegates to arms conference.

Jan. 3—War between Russia and Finland begun over alleged Finnish aid to Karelian rebels.

Jan. 6—Allied supreme council called economic and financial congress to meet in Genoa in March; Germany and Russia included.

Jan. 7—Conferees at Washington adopted resolutions forbidding submarine operations against merchantmen and banning poison gas in warfare.

Jan. 8—Briand agreed at Cannes to partial moratorium for Germany in return for defensive alliance for France with Great Britain.

Jan. 31—Shantung controversy between China and Japan settled.

Feb. 1—Washington conference adopted five-power naval limitation treaty with agreement on Pacific fortifications; adopted resolutions declaring open door in China; approved treaty for restriction of use of submarines and poison gas in warfare; Mr. Balfour announced Great Britain would restore Wei-Hai-Wei to China.

Feb. 4—Washington conference approved treaties relating to China and resolution creating international commission to review the rules of warfare.

Feb. 6—Delegates to Washington conference signed all the treaties and the conference adjourned sine die.

Feb. 10—President Harding submitted Washington conference treaties, with full minutes of conference, to the senate.

Feb. 11—United States and Japan signed treaty defining rights of former on Yap and other islands mandated to Japan.

Feb. 15—International permanent court of justice held first session in The Hague.

Lloyd George and Poincare agreed on 25-year Anglo-French pact and postponed Genoa conference to April 10.

Feb. 28—United States senate committee on foreign relations favorably reported four-power Pacific treaty with mild reservations, naval limitation, and submarine and poison gas treaties.

Feb. 28—Premier Lloyd George announced Great Britain abandoned protectorate of Egypt.

March 1—United States senate ratified Yap treaty with Japan.

March 21—United States senate ratified four-power Pacific treaty.

March 27—United States senate ratified supplement to Pacific treaty, excluding Japanese mainland, and reservation straightening out tangle over declaration on domestic affairs.

March 29—United States senate ratified naval limitation treaty and treaty on use of poison gas and submarines in warfare.

March 30—United States ratified nine-power treaty concerning China and treaty on Chinese tariff.

April 5—England notified her continental debtors they must pay interest so she could pay interest due America.

April 7—Germany rejected allied reparation commission's demand that she issue £300,000,000 in additional taxes.

April 9—Colombia and Venezuela signed boundary treaty.

April 10—Economic conference of Genoa opened. Russian delegates accepted the four demands of the other nations.

April 16—Germany and Russia concluded treaty, canceling war debts and Brest-Litovsk treaty and establishing full diplomatic relations. Representatives of allies at Genoa conference surprised and angry.

April 17—Peace parley between Japan and Far East republic broken off.

April 18—Allied and little entente powers at Genoa barred Germany from participation in conference on Russia.

April 19—Delegates of six neutral states and Russia at Genoa defied allied powers to discipline Germany.

April 21—German delegates at Genoa agreed to keep out of discussions of Russian affairs.

April 24—France and Japan at Genoa reached accord to oppose recognition of soviet Russia; conference deadlocked by Russia's financial demands.

May 1—Soviet Russia, in great May day demonstration at Moscow, defied the "capitalistic nations of the world."

May 2—Memorandum of allies' conditions for helping Russia handed to soviet delegates at Genoa; Belgium refused to sign and France made reservation.

May 3—France withdrew her assent to proposals made to the Russian government by Genoa conference. French premier charged Lloyd George with trickery concerning Russian oil fields.

May 11—Russians at Genoa replied evasively to allied proposals.

May 14—Allies at Genoa invited United States to participate in new negotiations with Russia to begin at The Hague June 15.

May 15—United States declined invitation to The Hague conference. Russia agreed to participate.

Germany and Poland signed treaty settling Upper Silesia disputes.

Great Britain asked United States, France and Italy to co-operate with her in investigating and stopping Turkish atrocities in Asia Minor.

Tacna-Arica conference between Chile and Peru opened in Washington.

May 18—Powers at Genoa adopted eight months' truce with Russia and other soviet republics.

May 19—Genoa conference adjourned. Lloyd George warning the Russians to be more reasonable.

May 24—International bankers' committee met in Paris to plan economic recovery for Europe.

June 3—United States agreed to help investigate Turkish atrocities.

June 5—France refused to agree to reduction of German reparations.

June 15—Hague preliminary conference on Russian affairs opened.

June 26—Russian delegates joined in conference at The Hague and insisted credits to Russia should be first topic handled.

July 1—Japan completed ratification of all the Washington conference treaties.

July 6—Russians at The Hague, after submitting "amazing" budget, offered $6 concessions for $1,500,000,000 in credits.

July 12—Germany agreed to give allies control of its finances, hoping for a loan of a billion dollars, and asked moratorium on reparations.

July 12—Premier King of Canada presented to Secretary Hughes proposal to modernize and make permanent the old Rush-Bagot Great Lakes agreement.

July 17—League of Nations council met in London to ratify the mandates. America and Great Britain having reached full agreement.

July 20—Conference at The Hague ended without result owing to position of Russian delegates.

July 22—Council of League of Nations adopted British mandate for Palestine and French mandate for Syria.

July 27—Esthonia, Latvia, Lithuania and Albania recognized as sovereign states by the United States.

July 30—King Constantine proclaimed Smyrna and its hinterland an autonomous state under protection of Greece.

Aug. 5—France began putting into effect economic sanctions against Germany because of refusal to pay installment of pre-war commercial debts.

Aug. 7—Conference of allied premiers opened in London. Poincare threatened France would act alone if necessary to compel Germany to execute the Versailles treaty. French demands referred to experts.

Aug. 8—Demuyter, Belgium, won James Gordon Bennett balloon race in Europe.

Aug. 9—French plans to coerce Germany disapproved by allied experts.

Aug. 10—United States and Germany signed agreement for determination of war claims.

Aug. 14—Allied conference in London broke up without result.

Aug. 15—Germany defaulted on payment of $5,000,000 installment of pre-war debts to allied nationals.

Aug. 23—Turks opened great offensive against Greeks in Asia Minor.

Aug. 26—France rejected guarantees offered by Germany for moratorium.

Jugo-Slavia and Czechoslovakia renewed their alliance.

Aug. 31—Reparations commission granted Germany six months' respite.

Sept. 1—Greece, her armies routed by the Turks, offered to evacuate Asia Minor if Turkey would sign armistice.

Sept. 4—League of Nations met in Geneva; Augustin Edwards of Chile elected president.

Sept. 6—Gen. Tricoupis, new Greek commander in chief, captured by Turks.

Council of League of Nations blocked all plans for merging of Austria with any other nation.

Sept. 8—Greeks began evacuation of Smyrna.

Sept. 9—Turkish troops occupied Smyrna.

Sept. 12—Western part of Smyrna burned; loss $600,000,000.

Germany refuses to guarantee demanded on payment of reparations.

allied nations.

Sept. 15—Greek ministers resign; Venizelos, Rhallis, Baltazzi, Gounaris and Stratos summoned from exile.

Sept. 16—Greece, France, Great Britain and Greece to meet at Dardanelles.

Sept. 16—France and Great Britain military operations.

Sept. 18—Entente powers sent to Dardanelles and Hungary asked for armistice.

Sept. 19—Kemal refuses to meet allies immediately.

Sept. 20—Allies agree to meet Kemal for neutrality zone; Kemal refuses to send troops.

Sept. 23—Allied conference, at Constantinople, Adrianople, Thrace and Smyrna for freedom of Dardanelles.

Sept. 25—Greece accepts Lord Curzon's proposal for international control of Dardanelles.

Sept. 25—Greece agrees to withdraw from Thrace by October 6.

Sept. 26—Russia in note to Near States declares Russia will not be bound by any decisions reached by the Lausanne conference.

Sept. 27—Turkish nationalists agree to meet allies at Mudania, Asia Minor, to discuss Thrace by Greece.

Oct. 1—Turkish nationalists refuse to withdraw from Thrace by October 6.

Oct. 2—Allies agree to meet Turks at Mudania.

Oct. 3—Armistice signed at Mudania.

Oct. 10—Allied conference with Turkish nationalists agreed on armistice terms at Mudania, providing for withdrawal of Greeks from Thrace by October 15.

Oct. 11—Mudania armistice signed; Greece delivery to Turkey of Thrace.

Oct. 11—United States and Great Britain agreement on P